

What is claimed is:

Sub
a. 1. An intraocular lens for replacement of a natural crystalline lens within a capsular bag during eye surgery, said lens comprising:

a) an optic portion adapted to focus light, said optic portion having a first flexibility;

b) a peripheral portion about said optic portion, said peripheral portion having a second flexibility less than said first flexibility; and

c) a restraining element provided to said peripheral portion and adapted to maintain said optic portion in a stressed state, said restraining element adapted to be removed after completion of an eye surgery without an invasive surgical procedure,

wherein upon removal of said restraining element, said optic portion is biased toward an unstressed state.

2. An intraocular lens according to claim 1, wherein:

said restraining element comprises a ring of material on said peripheral portion.

3. An intraocular lens according to claim 2, wherein:

said ring of material is dissolvable.

4. An intraocular lens according to claim 2, wherein:
said material is not naturally dissolvable in the environment of the eye, but is dissolvable in the presence of a dissolving agent.
5. An intraocular lens according to claim 2, wherein:
said ring of material is a carbohydrate-based or protein-based material.
6. An intraocular lens according to claim 2, wherein:
said ring of material is adapted to be broken or removed by laser light to release the optic into said unstressed state.
7. An intraocular lens according to claim 1, wherein:
said peripheral portion includes a channel, and said restraining element includes a fluid placed within said channel,
said channel including an outlet having a seal that prevents said fluid from escaping said channel,
said seal adapted to be opened in a non-surgically invasive manner.
8. An intraocular lens according to claim 7, wherein:
said seal comprises a dissolvable material.

9. An intraocular lens according to claim 8, wherein:
said seal comprises a material removable upon the application of laser light.
10. An intraocular lens according to claim 9, wherein:
said outlet includes a tubular element that extends toward said optic portion.
11. An intraocular lens according to claim 7, further comprising:
a length of flexible material substantially outside peripheral portion and having two ends, one of said ends being coupled to said seal,
wherein upon pulling said length of material with sufficient force relative to said outlet, said seal is removed from said outlet.
12. An intraocular lens according to claim 7, wherein:
said fluid is a balanced salt solution.
13. An intraocular lens according to claim 1, wherein:
said peripheral portion includes a channel having an outlet,
said restraining element includes a relatively stiff circular element within said channel.

14. An intraocular lens according to claim 13, further comprising:
a flexible length of material substantially outside
peripheral portion,

said stiff circular element having two ends, one of which is
coupled to said length of material,

wherein upon pulling said length of material with sufficient
force relative to said peripheral portion, said stiff circular
element is adapted to be broken or withdrawn from said channel.

15. An intraocular lens according to claim 1, wherein:

said restraining element comprises dissolvable or laser-
removable shell elements provided external said optic portion at
anterior and posterior sides thereof.

16. An intraocular lens according to claim 1, wherein:

said restraining element comprises a plurality of dissolvable
or laser-removable struts extending from said peripheral portion
and across said optic portion.

17. An intraocular lens according to claim 1, further comprising:

a bag provided about said optic portion,

wherein said peripheral portion is defined by one of said bag
and an element provided about said bag.

18. An intraocular lens according to claim 1, wherein:

said peripheral portion includes structure adapted to promote tissue attachment thereto.

19. An intraocular lens according to claim 1, wherein:

said peripheral portion comprises a plurality of haptics.

20. An intraocular lens according to claim 1, further comprising:

d) a collar provided on said peripheral portion and adapted to prevent an anterior portion of the capsular bag from adhering to said optic portion.

21. An intraocular lens for replacement of a natural crystalline lens within a capsular bag during eye surgery, said lens comprising:

a) an optic portion adapted to focus light, said optic portion having a first flexibility;

b) a peripheral portion about said optic portion, said peripheral portion having a second flexibility less than said first flexibility; and

c) a dissolvable restraining element provided to said peripheral portion and adapted to maintain said optic portion in a stressed state until dissolution in an environment of the eye wherein said optic portion is then biased toward an unstressed state.

22. An intraocular lens for replacement of a natural crystalline lens within a capsular bag during eye surgery, said lens comprising:

a) an optic portion adapted to focus light, said optic portion having a first flexibility;

b) a peripheral portion about said optic portion, said peripheral portion having a second flexibility less than said first flexibility;

c) a restraining element provided to said peripheral portion in a restraining configuration such that said restraining element is adapted to maintain said optic portion in a stressed state; and

d) a dissolvable or laser-removable element which upon dissolution or removal releases said restraining element from said restraining configuration and permits said optic portion to enter an unstressed state.

23. A method of implanting an intraocular lens into an eye, comprising:

a) inducing cycloplegia;

b) providing an intraocular lens in a stressed state;

c) inserting the intraocular lens into a capsular bag of the eye;

d) maintaining cycloplegia until the capsular bag physiologically affixes to the intraocular lens; and

e) releasing the intraocular lens from the stressed state.

24. A method according to claim 23, wherein
said releasing is non-surgically invasive.

25. A method according to claim 24, wherein:

said intraocular lens includes a restraining means for
restraining said lens in the stressed state, said releasing
including providing an agent to the eye which operates to dissolve
said restraining means.

26. A method of implanting an intraocular lens into an eye,
comprising:

a) providing an intraocular lens in a relaxed non-stressed
state;

b) inserting the intraocular lens into a capsular bag of the
eye;

c) inducing a ciliary body of the eye into a contracted state;
and

d) maintaining the ciliary body of the eye in the contracted
state until the capsular bag physiologically affixes to the
intraocular lens.

27. A method according to claim 26, wherein:

said ciliary body is pharmacologically induced into the
contracted state.

28. A method of implanting an intraocular lens into an eye, comprising:

- a) inducing cycloplegia;
- b) providing an intraocular lens in an unstressed state;
- c) inserting the intraocular lens into a capsular bag of the eye;
- d) maintaining cycloplegia, during which the capsular bag physiologically affixes to the intraocular lens; and
- e) after the capsular bag physiologically affixes and during cycloplegia, changing a size of said lens such that the lens enters into a stressed state.

29. A method according to claim 28, wherein:

said lens is changed in size by shrinking a portion of the lens.

30. A method according to claim 29, wherein:

light is used to shrink the portion of the lens.

31. A method according to claim 29, wherein:

a chemical agent is used to shrink the portion of the lens.

32. A method according to claim 28, further comprising:

- f) terminating cycloplegia.